CLAIM AMENDMENTS

1. (currently amended) A piconet that employs PN (Pseudo-Noise) codes to spread UWB (Ultra Wide Band) pulses to minimize narrowband interference, the piconet comprising:

a PNC (piconet coordinator); and

a plurality of DEVs (user piconet devices); and wherein:

each DEV of the plurality of DEVs and the PNC is operable to communicate with one another using UWB pulses;

based on narrowband interference within a spectrum of the UWB pulses that are transmitted across a communication link within the piconet, the PNC assigns a PN code from a plurality of PN codes to spread the UWB pulses transmitted across the communication link;

the assigned PN code has at least one narrowband blocking interval<u>, composed of at least one zero in the assigned PN code,</u> that substantially nulls at least one portion of the spectrum of the UWB pulses around which the narrowband interference is substantially centered thereby substantially eliminating the narrowband interference; and

when transmitting a UWB pulse across the communication link, at least one of a DEV of the plurality of DEVs and the PNC spreads the UWB pulse using the PN code that is assigned from the plurality of PN codes.

2. (original) The piconet of claim 1, wherein:

the narrowband interference is substantially centered around a predetermined frequency.

3. (original) The piconet of claim 2, wherein:

the predetermined frequency is at least one of approximately 2.4 GHz (Giga-Hertz) and approximately 5 GHz.

4. (original) The piconet of claim 3, wherein:

the interference substantially centered around approximately 5 GHz is generated by an IEEE (Institute of Electrical & Electronics Engineers) 802.11a WLAN (Wireless Local Area Network); and

the interference substantially centered around approximately 2.4 GHz is generated by an IEEE 802.11b WLAN.

5. (original) The piconet of claim 4, wherein:

a region in which the IEEE 802.11a WLAN operates is predetermined; and

a region in which the IEEE 802.11b WLAN operates is predetermined.

6. (currently amended) The piconet of claim 1, wherein:

the PNC transmits a respective UWB pulse ~~pulses~~ to each DEV within the plurality of DEVs;

after receiving its respective UWB pulse, each DEV within the plurality of DEVs transmits ~~a~~ at least one additional respective UWB pulse back to the PNC; and

the PNC performs ranging of the relative position of each DEV within the plurality of DEVs using a time duration of a round trip of the respective transmitted UWB pulse and the received at least one additional respective UWB pulse thereby determining the relative distances ~~distance~~ between the PNC and each DEV within the plurality of DEVs.

7. (original) The piconet of claim 6, wherein:

the PNC assigns the PN code based on the relative distance between the PNC and at least one DEV of the plurality of DEVs.

8. (currently amended) The piconet of claim 6, wherein:

the PNC ~~directs two DEVs of the plurality of DEVs to perform~~ performs ranging of the relative position of each of the two DEVs ~~devices~~ of the plurality of DEVs using a time duration of a round trip of a transmitted UWB pulse and a received UWB pulse between them thereby determining the relative distance between the two DEVs of the plurality of DEVs;

one of the two DEVs of the plurality of DEVs provides the ranging information indicating the relative distances ~~distance~~ between the two DEVs and ~~to~~ the PNC; and

the PNC employs the ranging information indicating the relative distances ~~distance~~ between the PNC and the two DEVs as well as the ranging information indicating the relative distance between the two DEVs to perform triangulation thereby determining the specific locations of the two DEVs with respect to the PNC.

9. (original) The piconet of claim 1, wherein:

the PNC includes GPS (Global Positioning System) functionality that is operable to determine the specific location of the PNC within a degree of precision;

each DEV of the plurality of DEVs includes GPS functionality that is operable to determine the specific location of that DEV within the degree of precision; and

each DEV of the plurality of DEVs communicates information corresponding to its specific location to the PNC.

10. (original) The piconet of claim 9, wherein:

the PNC assigns the PN code based on the specific location of at least one DEV of the plurality of DEVs.

11. (original) The piconet of claim 1, wherein:

the PNC includes interference assessment functionality that is operable to identify a frequency around which the narrowband interference is substantially centered.

12. (previously amended)The piconet of claim 11, wherein:

the PNC and each DEV of the plurality of DEVs operate in a silence mode for a predetermined period of time;

the PNC monitors noise within the piconet when the PNC and each DEV of the plurality of DEVs operate in the silence mode for the predetermined period of time;

the PNC performs an FFT (Fast Fourier Transform) of the noise thereby generating a PSD (Power Spectral Density) of the noise; and

the PNC identifies a peak within the PSD to identify the frequency around which the narrowband interference is substantially centered.

13. (original) The piconet of claim 11, wherein:

the frequency around which the narrowband interference is substantially centered is at least one of approximately 2.4 GHz (Giga-Hertz) and approximately 5 GHz.

14. (original) The piconet of claim 13, wherein:

the interference substantially centered around approximately 5 GHz is generated by an IEEE (Institute of Electrical & Electronics Engineers) 802.11a WLAN (Wireless Local Area Network); and

the interference substantially centered around approximately 2.4 GHz is generated by an IEEE 802.11b WLAN.

15. (original) The piconet of claim 1, wherein:

the UWB pulses are implemented according to CDMA (Code Division Multiple Access).

16. (original) The piconet of claim 1, wherein:

the UWB pulses are implemented according to DSSS (Direct Sequence Spread Spectrum).

17. (original) The piconet of claim 1, wherein:

based on a change in a frequency around which the narrowband interference is substantially centered, the PNC re-assigns a different PN code of the plurality of PN codes to spread the UWB pulses transmitted across the communication link.

18. (original) The piconet of claim 1, wherein:

based on a change in a position of at least one of a DEV of the plurality of DEVs and the PNC, the PNC re-assigns a different PN code of the plurality of PN codes to spread the UWB pulses transmitted across the communication link.

19. (original) The piconet of claim 1, wherein:

the PNC sets up p2p (peer to peer) communication between two DEVs of the plurality of DEVs; and

at least one additional PN code of the plurality of PN codes is employed to spread the UWB pulses that are transmitted between the two DEVs of the plurality of DEVs that communicate via p2p communication.

20. (original) The piconet of claim 1, wherein:

the UWB pulses are generated using a frequency band of a UWB frequency spectrum that spans from approximately 3.1 GHz (Giga-Hertz) to approximately 10.6 GHz;

the UWB frequency spectrum is divided into a plurality of frequency bands; and

each frequency band of the plurality of frequency bands has a bandwidth of approximately 500 MHz (Mega-Hertz).

21. (currently amended) A piconet that employs PN (Pseudo-Noise) codes to spread UWB (Ultra Wide Band) pulses to minimize narrowband interference, the piconet comprising:

a PNC (piconet coordinator); and

a plurality of DEVs (user piconet devices); and wherein:

each DEV of the plurality of DEVs and the PNC is operable to communicate with one another using UWB pulses;

the PNC transmits a respective UWB pulse ~~pulses~~ to each DEV within the plurality of DEVs;

after receiving its respective UWB pulse, each DEV within the plurality of DEVs transmits ~~a~~ at least one additional respective UWB pulse back to the PNC;

the PNC performs ranging of the relative position of each DEV within the plurality of DEVs using a time duration of a round trip of the respective transmitted UWB pulse and the received at least one additional respective UWB pulse thereby determining the relative distances ~~distance~~ between the PNC and each DEV within the plurality of DEVs;

based on narrowband interference within a spectrum of the UWB pulses that are transmitted across a communication link within the piconet and based on the relative distance between the PNC and at least one DEV of the plurality of DEVs, the PNC assigns a PN code from a plurality of PN codes to spread the UWB pulses transmitted across the communication link;

the assigned PN code has at least one narrowband blocking interval, composed of at least one zero in the assigned PN code, that substantially nulls at least one portion of the spectrum of the UWB pulses around which the narrowband interference is substantially centered thereby substantially eliminating the narrowband interference; and

when transmitting a UWB pulse across the communication link, at least one DEV of the plurality of DEVs and the PNC spreads the UWB pulse using the PN code that is assigned from the plurality of PN codes.

22. (original) The piconet of claim 21, wherein:

the narrowband interference is substantially centered around a predetermined frequency.

23. (original) The piconet of claim 22, wherein:

the predetermined frequency is at least one of approximately 2.4 GHz (Giga-Hertz) and approximately 5 GHz.

24. (original) The piconet of claim 23, wherein:

the interference substantially centered around approximately 5 GHz is generated by an IEEE (Institute of Electrical & Electronics Engineers) 802.11a WLAN (Wireless Local Area Network); and

the interference substantially centered around approximately 2.4 GHz is generated by an IEEE 802.11b WLAN.

25. (original) The piconet of claim 24, wherein:

a region in which the IEEE 802.11a WLAN operates is predetermined; and

a region in which the IEEE 802.11b WLAN operates is predetermined.

26. (currently amended) The piconet of claim 21, wherein:

the PNC ~~directs two DEVs of the plurality of DEVs to perform~~ performs ranging of the relative position of each of the DEVs ~~devices~~ of the plurality of DEVs using a time duration of a round trip of a transmitted UWB pulse and a received UWB pulse between them thereby determining the relative distance between the two DEVs of the plurality of DEVs;

one of the two DEVs of the plurality of DEVs provides the ranging information indicating the relative distances ~~distance~~ between the two DEVs and ~~to~~ the PNC; and

the PNC employs the ranging information indicating the relative distances ~~distance~~ between the PNC and the two DEVs as well as the ranging information indicating the relative distance between the two DEVs to perform triangulation thereby determining the specific locations of the two DEVs.

27. (original) The piconet of claim 21, wherein:

the PNC includes interference assessment functionality that is operable to identify a frequency around which the narrowband interference is substantially centered.

28. (previously amended)The piconet of claim 27, wherein:

the PNC and each DEV of the plurality of DEVs operate in a silence mode for a predetermined period of time;

the PNC monitors noise within the piconet when the PNC and each DEV of the plurality of DEVs operate in the silence mode for the predetermined period of time;

the PNC performs an FFT (Fast Fourier Transform) of the noise thereby generating a PSD (Power Spectral Density) of the noise; and

the PNC identifies a peak within the PSD to identify the frequency around which the narrowband interference is substantially centered.

29. (original) The piconet of claim 27, wherein:

the frequency around which the narrowband interference is substantially centered is at least one of approximately 2.4 GHz (Giga-Hertz) and approximately 5 GHz.

30. (original) The piconet of claim 29, wherein:

the interference substantially centered around approximately 5 GHz is generated by an IEEE (Institute of Electrical & Electronics Engineers) 802.11a WLAN (Wireless Local Area Network); and

the interference substantially centered around approximately 2.4 GHz is generated by an IEEE 802.11b WLAN.

31. (original) The piconet of claim 21, wherein:

the UWB pulses are implemented according to at least one of CDMA (Code Division Multiple Access) and DSSS (Direct Sequence Spread Spectrum).

32. (original) The piconet of claim 21, wherein:

based on a change in a frequency around which the narrowband interference is substantially centered, the PNC re-assigns a different PN code of the plurality of PN codes to spread the UWB pulses transmitted across the communication link.

33. (original) The piconet of claim 21, wherein:

based on a change in a position of at least one of a DEV of the plurality of DEVs and the PNC, the PNC re-assigns a different PN code of the plurality of PN codes to spread the UWB pulses transmitted across the communication link.

34. (original) The piconet of claim 21, wherein:

the PNC sets up p2p (peer to peer) communication between two DEVs of the plurality of DEVs; and

at least one additional PN code of the plurality of PN codes is employed to spread the UWB pulses that are transmitted between the two DEVs of the plurality of DEVs.

35. (original) The piconet of claim 21, wherein:

the UWB pulses are generated using a frequency band of a UWB frequency spectrum that spans from approximately 3.1 GHz (Giga-Hertz) to approximately 10.6 GHz;

the UWB frequency spectrum is divided into a plurality of frequency bands; and

each frequency band of the plurality of frequency bands has a bandwidth of approximately 500 MHz (Mega-Hertz).

36. (currently amended) A piconet that employs PN (Pseudo-Noise) codes to spread UWB (Ultra Wide Band) pulses to minimize narrowband interference, the piconet comprising:

a PNC (piconet coordinator); and

a plurality of DEVs (user piconet devices); and wherein:

each DEV of the plurality of DEVs and the PNC is operable to communicate with one another using UWB pulses;

based on narrowband interference within a spectrum of the UWB pulses that are transmitted across a communication link within the piconet, the PNC assigns a PN code from a plurality of PN codes to spread the UWB pulses transmitted across the communication link;

the assigned PN code has at least one narrowband blocking interval, composed of at least one zero in the assigned PN code, that substantially nulls at least one portion of the spectrum of the UWB pulses around which the narrowband interference is substantially centered thereby substantially eliminating the narrowband interference;

when transmitting a UWB pulse across the communication link, at least one DEV of the plurality of DEVs and the PNC spreads the UWB pulse using the PN code that is assigned from the plurality of PN codes; and

the PNC includes interference assessment functionality that is operable to identify a frequency around which the narrowband interference is substantially centered.

37. (previously amended)The piconet of claim 36, wherein:

the PNC and each DEV of the plurality of DEVs operate in a silence mode for a predetermined period of time;

the PNC monitors noise within the piconet when the PNC and each DEV of the plurality of DEVs operate in the silence mode for the predetermined period of time;

the PNC performs an FFT (Fast Fourier Transform) of the noise thereby generating a PSD (Power Spectral Density) of the noise; and

the PNC identifies a peak within the PSD to identify the frequency around which the narrowband interference is substantially centered.

38. (original) The piconet of claim 36, wherein:

the frequency around which the narrowband interference is substantially centered is at least one of approximately 2.4 GHz (Giga-Hertz) and approximately 5 GHz.

39. (original) The piconet of claim 38, wherein:

the interference substantially centered around approximately 5 GHz is generated by an IEEE (Institute of Electrical & Electronics Engineers) 802.11a WLAN (Wireless Local Area Network); and

the interference substantially centered around approximately 2.4 GHz is generated by an IEEE 802.11b WLAN.

40. (currently amended) The piconet of claim 36, wherein:

the PNC transmits a respective UWB pulse ~~pulses~~ to each DEV within the plurality of DEVs;

after receiving its respective UWB pulse, each DEV within the plurality of DEVs transmits ~~a~~ at least one additional respective UWB pulse back to the PNC; and

the PNC performs ranging of the relative position of each DEV within the plurality of DEVs using a time duration of a round trip of the respective transmitted UWB pulse and the received at least one additional respective UWB pulse thereby determining the relative distances ~~distance~~ between the PNC and each DEV within the plurality of DEVs.

41. (original) The piconet of claim 40, wherein:

the PNC assigns the PN code based on the relative distance between the PNC and at least one DEV of the plurality of DEVs.

42. (currently amended) The piconet of claim 40, wherein:

the PNC ~~directs two DEVs of the plurality of DEVs to perform~~ performs ranging of the relative position of each of the two DEVs ~~devices~~ of the plurality of DEVs using a time duration of a round trip of a transmitted UWB pulse and a received UWB pulse between them thereby determining the relative distances ~~distance~~ between the two DEVs of the plurality of DEVs;

one of the two DEVs of the plurality of DEVs provides the ranging information indicating the relative distances ~~distance~~ between the two DEVs and ~~to~~ the PNC; and

the PNC employs the ranging information indicating the relative distances ~~distance~~ between the PNC and the two DEVs as well as the ranging information indicating the relative distance between the two DEVs to perform triangulation thereby determining the specific locations of the two DEVs.

43. (original) The piconet of claim 36, wherein:

the PNC includes GPS (Global Positioning System) functionality that is operable to determine the specific location of the PNC within a degree of precision;

each DEV of the plurality of DEVs includes GPS functionality that is operable to determine the specific location of that DEV within the degree of precision; and

each DEV of the plurality of DEVs communicates information corresponding to its specific location to the PNC.

44. (original) The piconet of claim 43, wherein:

the PNC assigns the PN code based on the specific location of at least one DEV of the plurality of DEVs.

45. (original) The piconet of claim 36, wherein:

based on a change in a frequency around which the narrowband interference is substantially centered, the PNC re-assigns a different PN code of the plurality of PN codes to spread the UWB pulses transmitted across the communication link.

46. (original) The piconet of claim 36, wherein:

based on a change in a position of at least one of a DEV of the plurality of DEVs and the PNC, the PNC re-assigns a different PN code of the plurality of PN codes to spread the UWB pulses transmitted across the communication link.

47. (original) The piconet of claim 36, wherein:

the UWB pulses are generated using a frequency band of a UWB frequency spectrum that spans from approximately 3.1 GHz (Giga-Hertz) to approximately 10.6 GHz;

the UWB frequency spectrum is divided into a plurality of frequency bands; and

each frequency band of the plurality of frequency bands has a bandwidth of approximately 500 MHz (Mega-Hertz).

48. (currently amended) A piconet that employs PN (Pseudo-Noise) codes to spread UWB (Ultra Wide Band) pulses to minimize narrowband interference, the piconet comprising:

a PNC (piconet coordinator) that operates as a master device; and

a plurality of DEVs (user piconet devices) that operate as slave devices with respect to the PNC that operates as the master device; and wherein:

each DEV of the plurality of DEVs and the PNC is operable to communicate with one another using UWB pulses;

based on narrowband interference within a spectrum of the UWB pulses that are transmitted across a communication link within the piconet, the PNC assigns a PN code from a plurality of PN codes to spread the UWB pulses transmitted across the communication link;

the assigned PN code has at least one narrowband blocking interval, composed of at least one zero in the assigned PN code, that substantially nulls at least one portion of the spectrum of the UWB pulses around which the narrowband interference is substantially centered thereby substantially eliminating the narrowband interference;

when transmitting a UWB pulse across the communication link, at least one DEV of the plurality of DEVs and the PNC spreads the UWB pulse using the PN code that is assigned from the plurality of PN codes; and

the narrowband interference is substantially centered around a predetermined frequency.

49. (original) The piconet of claim 48, wherein:

the predetermined frequency is at least one of approximately 2.4 GHz (Giga-Hertz) and approximately 5 GHz.

50. (original) The piconet of claim 49, wherein:

the interference substantially centered around approximately 5 GHz is generated by an IEEE (Institute of Electrical & Electronics Engineers) 802.11a WLAN (Wireless Local Area Network); and

the interference substantially centered around approximately 2.4 GHz is generated by an IEEE 802.11b WLAN.

51. (original) The piconet of claim 50, wherein:

a region in which the IEEE 802.11a WLAN operates is predetermined; and

a region in which the IEEE 802.11b WLAN operates is predetermined.

52. (original) The piconet of claim 48, wherein:

the PNC sets up p2p (peer to peer) communication between two DEVs of the plurality of DEVs; and

at least one additional PN code of the plurality of PN codes is employed to spread the UWB pulses that are transmitted between the two DEVs of the plurality of DEVs.

53. (original) The piconet of claim 48, wherein:

based on a change in a frequency around which the narrowband interference is substantially centered, the PNC re-assigns a different PN code of the plurality of PN codes to spread the UWB pulses transmitted across the communication link.

54. (original) The piconet of claim 48, wherein:

based on a change in a position of at least one of a DEV of the plurality of DEVs and the PNC, the PNC re-assigns a different PN code of the plurality of PN codes to spread the UWB pulses transmitted across the communication link.

55. (original) The piconet of claim 48, wherein:

the UWB pulses are generated using a frequency band of a UWB frequency spectrum that spans from approximately 3.1 GHz (Giga-Hertz) to approximately 10.6 GHz;

the UWB frequency spectrum is divided into a plurality of frequency bands; and

each frequency band of the plurality of frequency bands has a bandwidth of approximately 500 MHz (Mega-Hertz).

56. (currently amended) A piconet operating method, the method comprising:

assigning a PN (Pseudo-Noise) code that is operable to spread UWB (Ultra Wide Band) pulses that are transmitted across a communication link that communicatively couples two devices within a piconet that includes a plurality of DEVs (user piconet devices) and a PNC (piconet coordinator);

using <u>at least one zero within</u> the PN code, substantially nulling at least a portion of a spectrum of the UWB pulses;

wherein the nulling substantially eliminates the narrowband interference; and

operating the communication link that communicatively couples two devices using the assigned PN code.

57. (original) The method of claim 56, wherein:

the narrowband interference is substantially centered around a predetermined frequency.

58. (original) The method of claim 57, wherein:

the predetermined frequency is at least one of approximately 2.4 GHz (Giga-Hertz) and approximately 5 GHz.

59. (original) The method of claim 58, wherein:

the interference substantially centered around approximately 5 GHz is generated by an IEEE (Institute of Electrical & Electronics Engineers) 802.11a WLAN (Wireless Local Area Network); and

the interference substantially centered around approximately 2.4 GHz is generated by an IEEE 802.11b WLAN.

60. (original) The method of claim 59, wherein:

a region in which the IEEE 802.11a WLAN operates is predetermined; and

a region in which the IEEE 802.11b WLAN operates is predetermined.

61. (original) The method of claim 56, further comprising:

determining the relative distance between the PNC and at least one DEV of the plurality of devices within the piconet using ranging that employs a time duration of a round trip of a transmitted UWB pulse and a received UWB pulse between the PNC and the at least one DEV of the plurality of devices; and

assigning the PN code based on the relative distance between the PNC and the at least one DEV of the plurality of DEVs.

62. (original) The method of claim 56, further comprising:

determining the position of each DEV of the plurality of DEVs and the PNC using GPS (Global Positioning System) functionality contained within each DEV of the plurality of DEVs and the PNC;

wherein the GPS (Global Positioning System) functionality is operable to determine the specific location of the respective device within a degree of precision; and

assigning the PN code based on the positions of the PNC and each DEV of the plurality of DEVs.

63. (original) The method of claim 56, further comprising:

based on a change in a frequency around which the narrowband interference is substantially centered, re-assigning a different PN code of the plurality of PN codes to spread the UWB pulses transmitted across the communication link.

64. (original) The method of claim 56, further comprising:

based on a change in a position of at least one of a DEV of the plurality of DEVs and the PNC, re-assigning a different PN code of the plurality of PN codes to spread the UWB pulses transmitted across the communication link.

65. (original) The method of claim 56, further comprising:

performing interference assessment to identify a frequency around which the narrowband interference is substantially centered.

66. (original) The method of claim 65, further comprising:

operating the PNC and each DEV of the plurality of DEVs in a silence mode for a predetermined period of time;

monitoring noise within the piconet when operating the PNC and each DEV of the plurality of DEVs in the silence mode for the predetermined period of time; and

performing an FFT (Fast Fourier Transform) of the noise thereby generating a PSD (Power Spectral Density) of the noise; and

identifying a peak within the PSD to identify the frequency around which the narrowband interference is substantially centered.

67. (original) The method of claim 65, wherein:

the frequency around which the narrowband interference is substantially centered is at least one of approximately 2.4 GHz (Giga-Hertz) and approximately 5 GHz.

68. (original) The method of claim 67, wherein:

the interference substantially centered around approximately 5 GHz is generated by an IEEE (Institute of Electrical & Electronics Engineers) 802.11a WLAN (Wireless Local Area Network); and

the interference substantially centered around approximately 2.4 GHz is generated by an IEEE 802.11b WLAN.

69. (currently amended) A piconet operating method, the method comprising:

assigning a PN (Pseudo-Noise) code that is operable to spread UWB (Ultra Wide Band) pulses that are transmitted across a communication link that communicatively couples two devices within a piconet that includes a plurality of DEVs (user piconet devices) and a PNC (piconet coordinator);

using <u>at least one zero within</u> the PN code, substantially nulling at least a portion of a spectrum of the UWB pulses;

wherein the nulling substantially eliminates the narrowband interference; and

operating the communication link that communicatively couples two devices using the assigned PN code; and

wherein the narrowband interference is substantially centered around a predetermined frequency.

70. (original) The method of claim 69, wherein:

the predetermined frequency is at least one of approximately 2.4 GHz (Giga-Hertz) and approximately 5 GHz.

71. (original) The method of claim 70, wherein:

the interference substantially centered around approximately 5 GHz is generated by an IEEE (Institute of Electrical & Electronics Engineers) 802.11a WLAN (Wireless Local Area Network); and

the interference substantially centered around approximately 2.4 GHz is generated by an IEEE 802.11b WLAN.

72. (original) The method of claim 71, wherein:

a region in which the IEEE 802.11a WLAN operates is predetermined; and

a region in which the IEEE 802.11b WLAN operates is predetermined.

73. (original) The method of claim 69, further comprising:

determining the relative distance between the PNC and at least one DEV of the plurality of devices within the piconet using ranging that employs a time duration of a round trip of a transmitted UWB pulse and a received UWB pulse between the PNC and the at least one DEV of the plurality of devices; and

assigning the PN code based on the relative distance between the PNC and the at least one DEV of the plurality of DEVs.

74. (original) The method of claim 69, further comprising:

determining the position of each DEV of the plurality of DEVs and the PNC using GPS (Global Positioning System) functionality contained within each DEV of the plurality of DEVs and the PNC;

wherein the GPS (Global Positioning System) functionality is operable to determine the specific location of the respective device within a degree of precision; and

assigning the PN code based on the positions of the PNC and each DEV of the plurality of DEVs.

75. (original) The method of claim 69, further comprising:

based on a change in a frequency around which the narrowband interference is substantially centered, re-assigning a different PN code of the plurality of PN codes to spread the UWB pulses transmitted across the communication link.

76. (original) The method of claim 69, further comprising:

based on a change in a position of at least one of a DEV of the plurality of DEVs and the PNC, re-assigning a different PN code of the plurality of PN codes to spread the UWB pulses transmitted across the communication link.

77. (currently amended) A piconet operating method, the method comprising:

performing interference assessment of a communication link that communicatively couples two devices within a piconet that includes a plurality of DEVs (user piconet devices) and a PNC (piconet coordinator) to identify a frequency around which the narrowband interference is substantially centered;

assigning a PN (Pseudo-Noise) code that is operable to spread UWB (Ultra Wide Band) pulses that are transmitted across the communication link;

using <u>at least one zero within</u> the PN code, substantially nulling at least a portion of a spectrum of the UWB pulses;

wherein the nulling substantially eliminates the narrowband interference; and

operating the communication link that communicatively couples two devices using the assigned PN code.

78. (original) The method of claim 77, further comprising:

operating the PNC and each DEV of the plurality of DEVs in a silence mode for a predetermined period of time;

monitoring noise within the piconet when operating the PNC and each DEV of the plurality of DEVs in the silence mode for the predetermined period of time; and

performing an FFT (Fast Fourier Transform) of the noise thereby generating a PSD (Power Spectral Density) of the noise; and

identifying a peak within the PSD to identify the frequency around which the narrowband interference is substantially centered.

79. (original) The method of claim 77, wherein:

the frequency around which the narrowband interference is substantially centered is at least one of approximately 2.4 GHz (Giga-Hertz) and approximately 5 GHz.

80. (original) The method of claim 79, wherein:

the interference substantially centered around approximately 5 GHz is generated by an IEEE (Institute of Electrical & Electronics Engineers) 802.11a WLAN (Wireless Local Area Network); and

the interference substantially centered around approximately 2.4 GHz is generated by an IEEE 802.11b WLAN.

81. (original) The method of claim 77, further comprising:

determining the relative distance between the PNC and at least one DEV of the plurality of devices within the piconet using ranging that employs a time duration of a round trip of a transmitted UWB pulse and a received UWB pulse between the PNC and the at least one DEV of the plurality of devices; and

assigning the PN code based on the relative distance between the PNC and the at least one DEV of the plurality of DEVs.

82. (original) The method of claim 77, further comprising:

determining the position of each DEV of the plurality of DEVs and the PNC using GPS (Global Positioning System) functionality contained within each DEV of the plurality of DEVs and the PNC;

wherein the GPS (Global Positioning System) functionality is operable to determine the specific location of the respective device within a degree of precision; and

assigning the PN code based on the positions of the PNC and each DEV of the plurality of DEVs.

83. (original) The method of claim 77, further comprising:

based on a change in a frequency around which the narrowband interference is substantially centered, re-assigning a different PN code of the plurality of PN codes to spread the UWB pulses transmitted across the communication link.

84. (original) The method of claim 77, further comprising:

based on a change in a position of at least one of a DEV of the plurality of DEVs and the PNC, re-assigning a different PN code of the plurality of PN codes to spread the UWB pulses transmitted across the communication link.